Lessons from an Analysis of Online Gambling Behaviour

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Overview of the Lessons Learned

• All major forms and games of gambling (and gaming), fit the same distribution of purchase/play (e.g. how many bet once, twice...) as frequently purchased consumer packaged goods like candy, detergent or toilet paper.

• Although the exact proportions vary by game and population; 90% of gamblers account for 10% of the revenue, while 10% of the gamblers account for 90% of the revenue.

• These “disproportions” are “normal” or expected given the behaviour in frequently purchased product markets. One of the few “laws” in marketing.

• Low frequency gamblers (“light users”) tend to go through more decision-making for future gambling than high frequency gamblers (“heavy users”).
• High frequency gamblers are almost exclusively driven by their past gambling behaviour ("Gamblers’ Habit").

• Cognitive-based theories of gambling (e.g. attitudes, illusion of control, false beliefs) are good for explaining the gambling behaviour of gamblers, but poor at predicting their future gambling.

• Habit-based behaviour (stochastic) theories are poor for explaining the gambling behaviour of gamblers, but very accurate at the prediction of their future behaviour.

• There are rarely differences in demographics or psychographics (e.g. how affluent they see themselves) between “light” and “heavy” buyers or bettors, only between buyers/bettors and non-buyers/bettors.
• Gamblers get into habitual gambling behaviour very quickly—within 15 to 20 minutes with EGM play.

• We find these patterns of buying/betting are similar across different age groups, and apply to gamblers as young as 11 years old for lottery products.

• The behavioural pattern of betting for regular (non-problem) gamblers is different from the behavioural pattern of problem gamblers. Problem gamblers tend to play more frequently over more games and continue or increase higher bet amounts.

• The betting behaviour for some games reveals pathologic behaviour—where fewer gamblers bet more over time.
Defining Gambling Behaviour

• Gambling behaviour has been usually measured by survey-based self-reports of “intention to gamble.”

• Behaviour-based measures of actual gambling behaviour are increasingly being used because of the move to digital data collection by offline venues (e.g. casinos) and the growth of online formats (internet, mobile, social media) for gambling.

• Online offers a much wider and more accurate array of gambling behaviours to analyse like frequency of betting, maximum and minimum bet size, response latency (time taken to bet) and length of time with the venue (“duration” or “retention”).

• There appears to be a limited ability (statistical, theoretical) of industry or academics to properly analyse gambling behaviour.
What Do Repeat Purchase Groups Look Like?

Inaccurate View of Repeat Purchase in Mature Product Markets

LIGHT BUYERS/BETTORS                              MEDIUM                              HEAVY BUYERS/BETTORS
NBD Expected and Reported McDonald’s Snoopy Premiums Purchased in Last 7 Days

![Graph showing the percentage of buyers expected and reported](image-url)
Wave four NBD expected and reported Instant game purchase Florida ‘scratchies’ or Instant Games

% of buyers

Penetration = 51.3%
Average Freq = 8.4
Correlation = 0.827
p < 0.001

Number of games purchased in last two weeks
Behavioural Data from an Online Wagering Site
Using Knowledge of This Distribution of Betting

If we know what is “normal” or expected (fits this NBD distribution), use it to benchmark changes in the gambling environment:

• What if we add 1,000 more EGM’s to a market-will that increase the number of gamblers, how often they gamble or some combination of the two?

• What if we remove ATMs in casinos or put in clocks so gamblers know how long they are gambling?

• What if we ban smoking in gambling venues-will that affect how many gamble or how often they gamble?

• What is the effect of warnings in EGMs on gamblers?

• What if we put limits on the size or frequency of betting?
Testing Messages to Decrease and Increase the Online Gambling of Non-Problem Gamblers

Online gambling

• Online gambling rapidly growing with $117.6 US billion spent annually (onlinePoker.net, 2011).

• Electronic Gaming Machines (EGM) are the most popular form of online gambling for both regular and problem gamblers.

• Online gambling is largely unregulated and is argued to foster problem gambling in a significant portion of players.

• Online has greater convenience, ease of access and allows anonymity-these attributes have the potential to increase the number of problem gamblers (Cotte and Latour 2009, Williams and Wood 2007)
Testing Gambling Warnings

• All efforts of warnings for gambling seek to ultimately affect gambling behaviour, but almost all use cognitive goals like intention to gamble or modify “false” beliefs like “illusion of control.”

• Rarely test these warnings on problem gamblers-usually on regular gamblers.

• What is the significance of regular, non problem gamblers’ responses to warnings?
  - Educate for responsible gambling
  - Prophylactic/ inoculate against future problem gambling
  - Use as a comparison group
  - How about boomerang effects-causes more potential harm?
Findings on Gambling Warnings

• Miyazaki et al. (2001) studied lottery play and experimentally tested a gambling warning on psychological control. Compared to a control group, found an effect in respondents’ intention to gamble, but not their reported likelihood of purchasing lottery games in the future.

• Cloutier et al. (2006) found warning messages about illusion of control exposed for seven seconds did not significantly effect in games played.

• Floyd et al. (2006), exposed respondents to a video addressing irrational beliefs about gambling. Found no effect on level of risk taking or in the number of spins compared to a control group.

• Steenbergh et al. (2004) found similar not significant effects of warnings about risks and irrational beliefs in gambling behaviour.

• Cloutier et al. (2006), and Floyd et al. (2006) found repeating warnings during game play had no effect in gambling behaviour.
Psychological Reactance and Unintended Consequences of Health Massages

• When freedom of choice is taken away or restricted, (Brehm 1966) the choice is seen as more desirable.
• Mazis et al. (1973) found banned phosphate detergents more desirable compared to non-banned markets in Florida.
• Warnings to not jump in the shallow end of the pool associated with higher incidents of jumping in the pool (deTruck and Goldhaber 1994).
• Exposure to warnings of excessive drinking of alcohol associated with some drinking more (Wolburg 2006).
• Ringold (2002), Stewert and Martin (1994), Pechman and Slater (2005) all find unintended and boomerang effects.

• No previous studies in gambling have found these unintended effects.
Motorists Want Rego Stickers Back

Seventy per cent of motorists would prefer to have a registration sticker on their car as a payment reminder, an RAC poll has found.

Since the State Government stopped issuing stickers for light vehicles in Western Australia many motorists who relied on them as a due date reminder say they are more likely to miss a registration payment without them.

The RAC poll found 20 per cent of motorists had missed a registration renewal since the stickers were discontinued.

The Department of Transport said that new technologies have made it possible for roadside registration checks to be carried out with wireless equipment and number plate recognition software rather than visual checks of the stickers, making the stickers unnecessary.

Registration stickers have not been issued for light vehicles in WA since 1 January 2010.

Vehicle owners continue to receive a renewal reminder notice via post. An online check is also available through the Department of Transport website transport.wa.gov.au.
Gambling Messages to Test

• How much have you lost gambling today?

• Australians lost more from gambling last year than the federal government spent on schools.

• You will never win back the money you lost.

• **Strong treatment:** all three messages shown in a box covering the game graphics, and had to be closed by the player.

• **Weak treatment:** Three messages displayed in a scrolling message window at the bottom of the page.

• Control: No messages.

• Treatment or control every 30 spins of an online EGM.
Method

• Web-based, accessible anywhere 24/7 gambling site.

• Single-line slot machines, $2000 jackpot.

• Study ran for 36 consecutive days.

• 329 university students 18+ that had gambled in the past 12 months and were not problem gamblers were recruited by advertising. 168 later bet at least once in the game. This almost 50% drop in gamblers from setting up an account to actual betting has been replicated in the analysis of many online gambling providers.

• Experimental design with respondents randomly assigned to test groups.
Already registered? Go straight to "Start Playing".
Findings

• Players exposed to **one warning (1 to 59 spins)** showed lower gambling behaviour than a control group. Sample too small (n=26) to find significant differences. Probably different gamblers ("Flutterers")

• Players exposed to **two or more weak warnings (60+ spins)** showed significantly more frequent and higher bet values than the strong and control groups - "boomerang effects."

• Players exposed to **two or more strong warnings** had no difference from control in number of spins, amount bet less but had longer sessions.
Conclusions on Warning Experiment on Young Adult Regular Gamblers

- Weak warnings prompt regular non-problem gamblers to bet more frequently and with larger bet values.

- Frequent gambling is a strong indicator of problem gambling, and increased frequency can lead to addiction (new DSM-5).

- Gambling warnings need to be extensively tested to limit unintended consequences like increasing frequency and amount of bet-often associated with progression to problem gambling.
Persuasive Messages and Online Gambling

• Email communication vital for effective running of software and customer relationships.

• Short Text Messaging (SMS) used in wagering.

• Laptop and desktop computers the most popular platform for gambling. Mobile phone beginning to be popular in wagering.

• Email inexpensive to send, and appear to be more trusted than SMS (Huang et al. 2010)

• Email found effective in developing relationships with clients.
Customer Retention as an Objective

• “Propensity for a customer to stay with the brand over time” (Rust and Zahorik 1993).

• Should be measured as the duration of time the consumer continues to buy from a company (East 2008).

• Increasing retention should increase frequency of gambling.

• Very important to the Gambling industry, with Bally’s, Caesar's Palace and Betfair actively marketing to extend customer retention.

• Very difficult for online gambling because of the proliferation of competitors makes retention a challenge.
The Effects of Permission-based Advertising

- Find consumers respond favourably to permission messages (Rettie, et al. 2005).
- Much lower levels of blocking as spam
- Permission email prompts higher click-through rates (Crittenden and Rettie 2003).
- Perceived usefulness of the message (Martin et al. 2003).
- Trusted source over time.
- Multiple exposures may act through peripheral route of ELM to increase attitude toward the brand (Huang et al. 2010).

- Hypothesis: Sending permission email messages is positively associated with extending the length of gambling (retention).
Permission Email Messages Tested

Better chances to win
Dear Casino Guest,
We have added new features to our flagship game, Gold Rush. These features are designed to give you more chances to win the BIG ONE - $2000! Play all the games to put yourself out front.
Good Luck!
Casino Administration

Sign Up a Friend
Dear Casino Guest,
Here's an easy way to pick up some extra e-dollars -- Free!
For every new person that registers with Casino by 10:00 PM on the 23 of May 2001 and sends Casino an email with your name and student number saying that they are part of the "Sign Up a Friend" offer, we will add 50 e-dollars to your credit balance.
Do it today, and give you more chances to win the $2000 jackpot!
Thanks for playing Casino.
Casino Administration
Massages continued

*It's Anybody's Game*
Dear Casino Guest,
Want to win the $2000 jackpot? Right now, less than $100 separates the highest score from the lowest score. So it's anybody's game. Hitting the right spin would send you to the top.
End the semester with an extra $2000.
Thanks for playing Casino and GOOD LUCK!
Casino Administration

*More to Win on a Spin*
Dear Casino Guest,
On all *Gold Rush* games we have doubled the payout of the most frequent winning combinations - the single and two cherry combinations - to 2 and 10 times your bet, respectively. And to make it easier to hit it big, we have increased the maximum bet size to $5 on all *Gold Rush* games.
Good luck and thanks for playing Casino!
Casino Administration
Dear Valued Casino Guest,

We "put our money where our mouth is."

From 8:00 AM 8 June until 10:00 PM 11 June for every dollar that you win we will add a bonus payment equal to that amount to your balance. For example, if within those times you won a total of $100 in payouts, we would increase your credit balance by $100.

Thank you for your patronage and we hope to see you at Casino today and every day!

Casino Administration

Used the survival analysis statistic to test if gambling retention was significantly changed
Findings on Effect of Permission Email Messages

- One of five permission email messages significantly extended play.

- Play was extended 20 days.

- Extended play resulted in higher frequency of betting.

- Increases of betting frequency are associated with problem gambling.

- Permission messages are now used during betting in wagering.

- Is there a problem with permission messages in this largely unregulated market?
Overall Conclusions

• Behavioural data provide more accurate projections of future gambling and the potential effect of public policy interventions than cognitive self-report data used with TRA and TPB models of decision-making.

• Behavioural data may be able to quickly detect problem gambling patterns in real-time. This could be used to predict and manage the betting of problem gamblers playing on or off line gambling products.

• We will still need self-reports to understand “why” and to identify problem gamblers.